

IN THE CLAIMS

Claims 1-25 (canceled)

26 (previously presented) A method of applying a slidable anticorrosive layer to a metallic substrate, comprising applying a mixture comprising a polymeric organic binder, a low-molecular monomeric liquid compound to be subjected to free-radical polymerization, a compound forming radicals under the influence of actinic radiation, and at least 10% by weight of a conductive inorganic selected from the group consisting of magnetizable oxides of iron, phosphates of iron, phosphides of iron, phosphates of aluminum, phosphides of aluminum, and graphite coated mica pigments to the surface of a metallic substrate and irradiating the applied mixture with actinic radiation of such an intensity and for such a period that a firm, hard, and sufficiently tough, corrosion-resistant layer is formed.

27 (previously presented) The method as claimed in claim 26, wherein the coating mixture is applied to obtain a layer thickness of 2 to 8 μm .

28 (previously presented) The method as claimed in claim 26, wherein the substrate to be coated is a steel sheet which has previously been zinc-coated or chromatized or has been pretreated with a composition that is free of chromate.

29 (previously presented) The method as claimed in claim 26, wherein said coating and said curing are effected sequentially and the layer cured by radiation is optionally postcured thermally.

30 (previously presented) A flexible metal sheet which is electrolytically zinc-coated or hot-dip coated or chromatized or pretreated with a composition that is free of chromate and has an organic layer applied thereto, which layer can be obtained by the method as claimed in claim 26.

31. (previously presented) A method of applying a slidable anticorrosive layer to a metallic substrate, comprising applying a mixture consisting of a polymeric organic binder, a low-molecular monomeric liquid compound to be subjected to free-radical polymerization, a compound forming radicals under the influence of actinic radiation, and at least 10% by weight

of a conductive inorganic selected from the group consisting of magnetizable oxides of iron, phosphates of iron, phosphides of iron, phosphates of aluminum, phosphides of aluminum, and graphite coated mica pigments to the surface of a metallic substrate and irradiating the applied mixture with actinic radiation of such an intensity and for such a period that a firm, hard, and sufficiently tough, corrosion-resistant layer is formed.

32. (previously presented) The method as claimed in claim 31, wherein the coating mixture is applied to obtain a layer thickness of 2 to 8 μm .

33. (previously presented) The method as claimed in claim 31, wherein the substrate to be coated is a steel sheet which has previously been zinc-coated or chromated or has been pretreated with a composition that is free of chromate.

34. (previously presented) The method as claimed in claim 31, wherein said coating and said curing are effected sequentially and the layer cured by radiation is optionally postcured thermally.

35. (previously presented) A flexible metal sheet which is electrolytically zinc-coated or hot-dip coated or chromated or pretreated with a composition that is free of chromate and has an organic layer applied thereto, which layer can be obtained by the method as claimed in claim 31.

36 (new)) A coating mixture with anticorrosive properties, comprising a polymeric organic binder, a low-molecular monomeric liquid compound to be subjected to free-radical polymerization, a compound forming radicals under the influence of actinic radiation, and at least 10% by weight of a conductive inorganic selected from the group consisting of oxides of iron, phosphates of iron, phosphides of iron, oxides of aluminum, phosphates of aluminum, phosphides of aluminum, and graphite coated mica pigments.

37. (new) The mixture as claimed in claim 36, wherein the conductive inorganic pigment is magnetizable iron oxide or iron phosphide or a combination of these two pigments.

38. (new) The mixture as claimed in claim 36, wherein the binder is present in an amount of 15 to 60 by weight,

the polymerizable compound is present in an amount of 24 to 60 by weight,

the pigment is present in an amount of 10 to 40 by weight,

and the photoinitiator is present in an amount of 5 to 30 by weight, and further additives are present in an amount of 0.1 to 5% by weight.

39. (new) The mixture as claimed in claim 36, free of organic solvents and water.

40. (new) The mixture as claimed in 36, wherein the binder itself contains polymerizable groups.

41. (new) The mixture as claimed in 36, wherein the binder is selected from the group consisting of condensation resins, epoxy resins, poly(meth)acrylates, polyurethanes, polyesters and polyethers, epoxidized novolaks, bisphenol epichlorohydrin condensation products and esterification products of these resins or polymers with (meth)acrylic acid.

42. (new) The mixture as claimed in claim 36, wherein the compound to be subjected to free-radical polymerization is a mixture of compounds, at least part of which contains more than one polymerizable group in the molecule or completely consists of the same.

43. (new) The mixture as claimed in claim 42, wherein the compound to be subjected to free-radical polymerization is an ester of an α,β -unsaturated carboxylic acid with a divalent or polyvalent monomeric or oligomeric alcohol.

44. (new) The mixture as claimed in claim 43, wherein the compound to be subjected to free-radical polymerization is selected from the group consisting of dipropylene and tripropylene glycol di(meth)acrylate, 2-acetoacetyloxy ethyl methacrylate, hexanediol diacrylate, hydroxypropyl methacrylate, hydroxyethyl methacrylate and trimethylolpropane triacrylate.

45. (new) The mixture as claimed in claim 36, wherein the compound forming radicals upon irradiation is an aromatic keto compound.

46. (new) A method of applying a slidable anticorrosive layer to a metallic substrate, comprising applying the mixture as claimed in claim 36 to the surface of a metallic substrate and irradiating the applied mixture with actinic radiation of such an intensity and for such a period that a firm, hard, and sufficiently tough, corrosion-resistant layer is formed.

47. (new) The method as claimed in claim 46, wherein the coating mixture is applied to obtain a layer thickness of 2 to 8 μm .

48. (new) The method as claimed in claim 46, wherein the substrate to be coated is a steel sheet which has previously been zinc-coated or chromated or has been pretreated with a composition that is free of chromate.

49. (new) The method as claimed in claim 46, wherein said coating and said curing are effected sequentially in one step and the layer cured by radiation is optionally postcured thermally.

50. (new) A flexible metal sheet which is electrolytically zinc-coated or hot-dip coated or chromated or pretreated with a composition that is free of chromate and has an organic layer applied thereto, which layer can be obtained by the method as claimed in claim 46.

51. (new) The mixture as claimed in claim 16, comprising magnetizable iron oxide.

52. (new) The mixture as claimed in claim 36, comprising magnetizable iron oxide.

53. (new) The mixture as claimed in claim 16, wherein the conductive inorganic pigment consists of magnetizable iron oxide.

54. (new) The mixture as claimed in claim 36, wherein the conductive inorganic pigment consists of magnetizable iron oxide.